ABSTRACT

A metal rod guide (30) supports a metal rod (1) that can be inclined at an arbitrary angle, the support is instantaneously released to produce a free fall state, and during the release period, a first end surface (2) of the metal rod is impacted by a projectile (3) at the same angle as the metal rod, generating an elastic wave pulse in the metal rod. A direct current acceleration sensor (23) detects an acceleration arising when the elastic wave pulse reflects at the other end surface (22) of the metal rod. A strain gauge (25) provided on a side surface of the metal rod and/or a laser interferometer (24) measure strain and end surface motion and the measured values are processed to obtain a frequency response of the direct current acceleration sensor and measure frequency characteristics of the direct current acceleration sensor.